



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/527,459

03/11/2005

Olli Hognabba

HEIN-061

2757

20374 7590 09/16/2008

KUBOVCIK & KUBOVCIK
SUITE 1105
1215 SOUTH CLARK STREET
ARLINGTON, VA 22202

EXAMINER

KIM, SUN U

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

09/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/527,459 | Applicant(s) HOGNABBA ET AL. | |
| | Examiner JOHN KIM | Art Unit 1797 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/18/05</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1797

1. The disclosure is objected to because of the following informalities: Comma in a scientific unit should be replaced with a period on lines 31-32 of page 1 of the specification.

Appropriate correction is required.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koppe (US Patent No. 5,730,869) in view of Hindstrom et al (US Patent No. 4,981,589). Koppe teaches a microporous ceramic filter plate comprising a membrane (2, 3) with pore size for application of microfiltration, ultrafiltration, etc. and having a recessed area (1) in the interior of filter plate provided with an outlet (6) and hub (7) for attaching the filter plate and supporting elements (5) within the interior of the filter plate and the ratio of the supporting elements between the longest dimension and the shortest dimension appears to be in maximum 1.5 in the cross-section parallel to the filtration surface of the filter plate (see figures 1-3; col. 1, line 58 - col. 4, line 23). Claim 1 essentially differs from the filter plate of Koppe in reciting that the membrane is positioned on a substrate. Hindstrom et al teach a microporous ceramic filter plate comprising membrane of pore size between 0.1 to 3 microns positioned on a substrate (see figures 1-3; col. 2, line 64 – col. 4, line 54). It would have been obvious to a person of ordinary skill in the art to construct the microporous filter plate of Koppe into two piece construction of thin-layer membrane on a substrate to achieve five-fold flow rate of filtered liquid as compared with a prior-art solution as suggested by Hindstrom et al (see col. 3, lines 60-64; col. 1, lines 33-44).

Art Unit: 1797

Regarding claims 2 and 19, see figure 1 of Koppe for supporting elements (5) in the recessed area containing 10 to 50% of the total area of the recessed area.

Regarding claim 3, Koppe teaches that the distance between the supporting elements (5.1) is no more than 20 mm (see col. 3, line 64 – col. 4, line 1).

Regarding claims 4 and 6, Koppe teaches that the supporting element (5) has a curvature or angular shape (see figure 2).

Regarding claims 5 and 7-9, a particular shape of the supporting element is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed supporting element's shape is significant. In re Dailey, 357 F. 2d 669, 149 USPQ 47 (CCPA 1966).

Regarding claims 10 and 15, Koppe teaches that the supporting element (5) is part of the substrate (2, 3) made of ceramic material (see col. 4, lines 5-7).

Regarding claim 11, Hindstrom et al teach that the mean pore size of the substrate is 4 to 50 microns for allowing increased flow rate of filtered liquid (see col. 3, lines 37-40, 60-63).

Regarding claims 12 and 20, Hindstrom et al inherently has the porosity range in the substrate of 25 to 80% of the total volume of the substrate absent persuasive evidence.

Regarding claim 13, Koppe teaches that the membrane and substrate is made of same material (see col. 4, lines 5-8).

Regarding claim 14, Hindstrom et al that the membrane and substrate is made of different material (see col. 3, lines 5-32).

Regarding claims 16-18, Koppe in view of Hindstrom et al discloses the claimed invention except for different materials including sintered metal, plastic material, a carbon based

Art Unit: 1797

material instead of ceramic material used for manufacturing the filter plate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select known materials used for manufacturing the filter plate, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent No. 6,596,168 and 4,493,815 teach known filter plates.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN KIM whose telephone number is (571)272-1142. The examiner can normally be reached on Monday-Friday 7 a.m. - 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Kim/

Application/Control Number: 10/527,459

Page 5

Art Unit: 1797

Primary Examiner, Art Unit 1797

JK

9/11/08